CLAIMS

What is claimed is:

1. An immunogenic composition comprising:
a means for providing protection to an animal against a pathogen of *Yersinia* origin; and
a pharmaceutically suitable excipient.

2. The immunogenic composition of claim 1, further comprising LcrV, the F1 antigen, YopD, an attenuated *Yersinia* bacterium, a recombinant carrier bacterium including a nucleic acid encoding a YscF protein, an inactive or killed *Yersinia* bacterium or combinations thereof.

3. The immunogenic composition of claim 1, further comprising an adjuvant.

4. The immunogenic composition of claim 1, further comprising PrgI, MxiH, EscF or combinations thereof.

5. The immunogenic composition of claim 1, wherein the pathogen is *Yersinia pestis*.

6. The immunogenic composition of claim 1, wherein the means for providing protection comprises an isolated or recombinant YscF protein.

7. A health program for immunizing subjects in a population or a sub-population against *Yersinia* infections, said health program comprising:
administering the immunogenic composition of claim 1 to at least some of the subjects of the population or the sub-population.

8. The immunogenic composition of claim 1, wherein the means for providing protection to an animal against a pathogen of *Yersinia* origin is a His-tagged YscF protein.

9. An immunogenic composition for providing protection to an animal against a pathogen of *Yersinia* origin comprising:
a recombinant YscF protein or a protective epitope thereof; and
a pharmaceutically suitable excipient.

10. The immunogenic composition of claim 9, further comprising LcrV, the F1 antigen, YopD, an attenuated *Yersinia* bacterium, a recombinant carrier bacterium including a nucleic acid encoding a YscF protein, an inactive or killed *Yersinia* bacterium or combinations thereof.

11. The immunogenic composition of claim 9, further comprising an adjuvant.

12. The immunogenic composition of claim 9, further comprising PrgI, MxiH, EscF or mixtures thereof.

13. The immunogenic composition of claim 9, wherein the recombinant YscF comprises His-tagged YscF.

14. A health program for immunizing subjects in a population or a sub-population against *Yersinia* infections, said health program comprising:
administering the immunogenic composition of claim 9 to at least some of the subjects of the population or the sub-population.

15. A composition produced by a process, the process comprising:
providing an expression vector including a nucleotide sequence encoding a YscF protein capable of providing protection to an animal against a pathogen of *Yersinia* origin;
expressing the nucleotide sequence to produce the YscF protein;
collecting the YscF protein; and
mixing the YscF protein with a suitable excipient.

16. The composition produced by the process of claim 15, where the YscF protein is His-tagged YscF of SEQ ID NO: 12.

17. The composition produced by the process of claim 15, further comprising mixing LcrV, the F1 antigen, YopD or combinations thereof with the suitable excipient.

18. The composition produced by the process of claim 15, further comprising mixing an adjuvant with the suitable excipient.

19. The composition produced by the process of claim 15, further comprising mixing PrgI, MxiH, EscF or combinations thereof with the suitable excipient.

20. An isolated or recombinant YscF protein capable of providing protection to an animal against a pathogen of *Yersinia* origin.

21. The isolated or recombinant YscF protein of claim 20, wherein the isolated or recombinant YscF protein is encoded by a nucleotide sequence selected from the group of nucleotide sequences consisting of SEQ ID NO: 11 and SEQ ID NO: 13.

22. A His-tagged YscF protein.

23. The His-tagged YscF protein of claim 22, wherein the peptide sequence is SEQ ID NO: 12.

24. An isolated or recombinant nucleic acid molecule encoding a YscF protein capable of providing protection to an animal against a pathogen of *Yersinia* origin.

25. The isolated or recombinant nucleic acid of claim 24, wherein an amino acid sequence of the isolated or recombinant protein is SEQ ID NO: 12.

26. An isolated or recombinant nucleic acid capable of hybridizing to the isolated or recombinant nucleic acid molecule of claim 24 under stringent conditions.

27. A cell transformed with the isolated or recombinant nucleic acid of claim 24.

28. The cell of claim 27, further comprising a promoter operatively linked to the isolated or recombinant nucleic acid sequence.

29. A process for producing antibodies capable of binding a YscF protein capable of providing protection to an animal against a pathogen of *Yersinia* origin, said process comprising:
providing an expression vector including a nucleotide sequence encoding the YscF protein;
expressing the nucleotide sequence to produce the YscF protein;
collecting the YscF protein;
mixing the collected YscF protein with a suitable excipient; and
administering the YscF protein to a subject, thus generating antibodies against the YscF protein

30. The process according to claim 29, further comprising attaching an affinity marker to the YscF.

31. The process according to claim 29, wherein the affinity marker is a His-tag.

32. A process for vaccinating a subject comprising:
administering a means capable of providing protection to an animal against a pathogen of *Yersinia* origin to the subject in an amount sufficient to elicit an immune response.

33. The process according to claim 32, further comprising mixing the YscF protein with a pharmaceutically acceptable excipient.

34. The process according to claim 32, wherein the pathogen is *Yersinia pestis*.

35. The process according to claim 32, wherein the YscF protein is His-tagged.

36. An antibody produced by the process according to claim 32.

37. The process according to claim 32, further comprising administering LcrV, the F1 antigen, YopD, an attenuated *Yersinia* bacterium, a recombinant carrier bacterium including a nucleic acid encoding a YscF protein, an inactive or killed *Yersinia* bacterium or combinations thereof to the subject in amount sufficient to elicit an immune response.